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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/875,833	06/05/2001	Carl Taussig	10003477	7789

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EXAMINER	
CHOI, WOO H	
ART UNIT	**PAPER NUMBER**
2189	

DATE MAILED: 06/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/875,833	TAUSSIG ET AL.	
	Examiner	Art Unit	
	Woo H. Choi	2189	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *06 May 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-17,28,30 and 36-38* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10-17,28,30 and 36-38* is/are rejected.

7)☒ Claim(s) *9* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *5/26/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1 – 3, 7, 11 – 14, 17, 28, 36 and 37 are rejected under 35 U.S.C. 102(e) as being anticipated by Hiramatsu *et al.* (US Patent Application Publication No. 2002/0085112, hereinafter "Hiramatsu").

3. With respect to claims 1 – 3, 7,11, 17 and 28, Hiramatsu discloses a data storage system for a digital camera (figure 5) comprising:

a temporary data storage circuit (figure 5, 2, see page 3, paragraph 62) coupled, in use, to receive data from the appliance (this limitation does not require that the data be received outside the appliance, as data received within the appliance is still data from the appliance), where the temporary data storage circuit has a storage capacity sufficient to store data comprising at least one picture from the appliance (CCD or CMOS device used by the camera stores the actual image captured);

a permanent data storage circuit (memory 7, is a permanent part of the digital camera) coupled, in use, to receive data from the temporary data storage circuit; and

a control circuit coupled to the temporary data storage circuit and the permanent data storage circuit, wherein the control circuit monitors the amount of time that data held in the temporary storage circuit and, after data is held in the temporary data storage circuit for a predetermined time period, causes the data to be transferred to the permanent data storage circuit (page 4, paragraphs 72 and 73, the image is held for a predetermined time T1 before being transferred to the memory 7).

4. With respect to claims 12 and 36, the control circuit causes the data to be transferred to the permanent data storage circuit after the predetermined time period if an erase command is not received by the control circuit during the predetermined time period (page 4, paragraphs 72 and 73, an erase command is not involved in the transfer operation).

5. With respect to claims 13 and 37, the predetermined event comprises further data being received by the temporary data storage circuit from the data generating appliance (transfer occurs every time a picture is taken).

6. With respect to claim 14, the control circuit is effective to simultaneously control transfer of data from the temporary data storage circuit to the permanent data storage circuit and transfer said further data from the data generating appliance into the temporary data storage circuit (the Examiner notes that the claim does not require simultaneous transfer of data, it merely requires

that the control circuit be effective to control the transfers simultaneously, i.e. simultaneous operation of circuits, the control circuits of figure 5 operate continuously once the power is turned on).

7. Claims 1 – 3, 5, 7, 8, 11, 17 and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Niikawa *et al.* (US Patent Application Publication No. 2001/0043279, hereinafter "Niikawa").

8. With respect to claims 1 – 3, 7, 11, 17 and 28, Niikawa discloses a data storage system for a digital camera (figure 6) comprising:

a temporary data storage circuit (figure 6, 209, 210, 220) coupled, in use, to receive data from the appliance, where the temporary data storage circuit has a storage capacity sufficient to store data comprising at least one picture from the appliance (page 5, paragraph 82);

a permanent data storage circuit (8) coupled, in use, to receive data from the temporary data storage circuit (page 6, paragraph 102); and

a control circuit coupled to the temporary data storage circuit and the permanent data storage circuit, wherein the control circuit monitors the amount of time that data held in the temporary storage circuit and, after data is held in the temporary data storage circuit for a predetermined time period, causes the data to be transferred to the permanent data storage circuit (page 5, paragraph 82, after the image capturing the image is held for a predetermined time, see also figure 8, S4, paragraph 110).

9. With respect to claim 5, the permanent data storage circuit comprises a non-volatile memory module that is detachably coupled to the data storage system to allow a plurality of different memory modules to be used in a single data storage system (figure 5).

10. With respect to claim 8 the temporary data storage to circuit comprises RAM (figure 6, 209, 220, 210).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

12. Claims 1, 5 and 11 – 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Teoman *et al.* (US Patent No. 6,463,509, hereinafter "Teoman") in view of Barrus *et al.* (US Patent Application Publication No. 2001/0045884, hereinafter "Barrus").

13. With respect to claims 1, 13 and 14, Teoman discloses a data storage system (figure 1) for a data generating appliance comprising:

a temporary data storage circuit (25) coupled, in use, to receive data from the appliance, where the temporary data storage circuit has a storage capacity sufficient to store data comprising at least one picture from the appliance (col. 6, lines 38 – 41);

a permanent data storage circuit (figure 1, 26, 28) coupled, in use, to receive data from the temporary data storage circuit; and

a control circuit coupled to the temporary data storage circuit and the permanent data storage circuit, wherein the control circuit monitors the amount of time that data is held in the temporary data storage circuit and, after data is held in the temporary data storage circuit for a predetermined time period, causes the data to be transferred to the permanent data storage circuit (col. 13, lines 1 – 10).

However, Teoman does not disclose that the data generating appliance is portable. On the hand, Barrus discloses a portable data generating appliance. It would have been obvious to one of ordinary skill in the art, having the teachings of Teoman and Barrus before him at the time the invention was made, to make the computer system of Teoman portable in order to enhance the ability of people to remain productive while traveling (Barrus, page 1, paragraph 2).

14. With respect to claims 5, the permanent data storage circuit comprises a non-volatile memory module that is detachably coupled to the data storage system to allow a plurality of different memory modules to be used in a single data storage system (figure 2, disk drives are detachable and can be replace with other disk drives).

15. With respect to claim 11, the control circuit is operative to effect transfer of image data from the temporary data storage circuit to the permanent data storage circuit upon occurrence of a predetermined event (see rejection of claim 1, the control circuit is capable of transferring any data including image data).

16. With respect to claim 12, the control circuit causes the data to be transferred to the permanent data storage circuit after the predetermined time period if an erase command is not received by the control circuit during the predetermined time period (the transfer occurs independent of any erase command, i.e., transfer occurs if an erase command is not received and occurs if an erase command is received).

17. With respect to claim 13, the predetermined event (figure 16, step 384) comprises further data being received by the temporary data storage circuit from the data generating appliance writing (col. 13, lines 10 – 12).

18. With respect to claim 14, the control circuit is effective to simultaneously control transfer of data from the temporary data storage circuit to the permanent data storage circuit and transfer said further data from the data generating appliance into the temporary data storage circuit (the circuit can control write operations to the cache and write operations to the disks from the cache).

19. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Niikawa in view of Tringali (US Patent No. 6,545,891, hereinafter "Tringali").

Niikawa discloses all of the limitations of the parent claim as discussed above. However, Niikawa does not specifically disclose that the permanent data storage circuit comprises non-

volatile write-once memory. On the other hand, Tringali discloses write-once memory (figure 7) in a data storage device.

It would have been obvious to one of ordinary skill in the art, having the teachings of Niikawa and Tringali before him at the time the invention was made, to use the write-once memory in a digital data storage device teachings of Tringali in the digital data storage device of Niikawa, in order to take advantage of substantially reduced cost-per bit (Tringali, col. 1, lines 44 – 53).

20. Claims 15, 16 and 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Niikawa in view of Levy (US Patent No. 5,438,549).

Niikawa discloses all of the limitations of the independent parent claims as discussed above. Niikawa's data storage device derives primary operating power from the camera. However, Niikawa does not specifically disclose that the predetermined event comprises disconnection of power supply from the camera to the data storage device. On the other hand, Levy discloses a memory storage (figure 2) device that transfers data from the temporary data storage circuit (23) to the permanent data storage circuit (21) upon occurrence of disconnection of power supply (col.2, lines 18 – 22).

Levy's device includes a short term power supply circuit adapted to supply power to the data storage system sufficient to transfer the data contents of the temporary data storage circuit to the permanent data storage circuit (figure 3, 30).

It would have been obvious to one of ordinary skill in the art, having the teachings of Hashimoto and Levy before him at the time the invention was made, to use the memory with battery backup teachings of Levy in the memory card of Niikawa, in order to maintain data integrity of a memory device during loss of power (Levy, col. 2, lines 9 – 12).

21. Claims 4 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsukamoto *et al.* (US Patent Application Publication No. 2002/0048033, hereinafter "Tsukamoto") in view of Sarkozy *et al.* (US Patent No. 5,893,919, hereinafter "Sarkozy") further in view of Shimotono *et al.* (US Patent No. 5,797,022, hereinafter "Shimotono").

22. With respect to claim 4, Tsukamoto discloses a data storage system (figure 30) for a portable data generating appliance (figure 1) comprising:

a temporary data storage circuit (figure 30, 703) coupled, in use, to receive data from the appliance;

a permanent data storage circuit (701) coupled, in use, to receive data from the temporary data storage circuit; and

a control circuit (702) coupled to the temporary data storage circuit and the permanent data storage circuit, the control circuit being adapted to effect transfer of data from the temporary data storage circuit to the permanent data storage circuit,

wherein the data storage system is contained in an interface card (see figure 30) that is separable from the data generating appliance and, in use, is received by the data generating

appliance to provide coupling for data transfer from the data generating appliance to said temporary data storage circuit.

However, Tsukamoto does not specifically disclose the capacity of the temporary storage circuit. On the other hand, Sarkozy discloses that cache memory (temporary storage), for disk drives (permanent storage) can have a storage capacity sufficient to store data comprising at least one picture from the appliance (col. 9, lines 33 – 34).

It would have been obvious to one of ordinary skill in the art, having the teachings of Tsukamoto and Sarkozy before him at the time the invention was made, to recognize that cache size in the order of tens of Megabytes is desirable since it allows for multiple requests to be serviced at one time (Sarkozy, col. 9, lines 52 – 54).

Tsukamoto and Sarkozy disclose all of the limitations discussed above. However, they do not specifically disclose that the control circuit monitors the amount of time that data is held in the temporary data storage circuit and, after data is held in the temporary data storage circuit for a predetermined time period, causes the data to be transferred to the permanent data storage circuit. On the other hand, Shimotono discloses these limitations. Shimotono discloses a method and apparatus for flush writing data from the cache to the disk after a predetermine period of time (abstract).

It would have been obvious to one of ordinary skill in the art, having the teachings of Tsukamoto, Sarkozy and Shimotono before him at the time the invention was made, to flush the cache data to the disk after a predetermined period of time to be able to reduce the hard disk's power consumption, enhance the system performance and maintain data consistency (abstract).

23. With respect to claim 6, the permanent data storage circuit comprises a non-volatile memory module that is replaceable in the interface card to allow a plurality of different memory modules to be used in a single data storage system (figure 30, the hard disk 701 in the interface card, it is replaceable since the entire card is detachable, thus replaceable, it is also replaceable from within the interface card since the card is manufactured by assembling different components together into a single card and the hard disk is one of the component that can be replaced with any other hard disk of same kind while being assembled or repaired, a plurality of different disks are allowed to be used in a single card).

Response to Amendment

24. All of the independent claims have been amended to overcome rejections based on the prior art references. All of the outstanding rejections from previous actions are withdrawn.

Response to Arguments

25. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

26. Claim 9 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

27. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

28. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Woo H. Choi whose telephone number is (571) 272-4179. The examiner can normally be reached on M-F, 9:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matt Kim can be reached on (571) 272-4182. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

whc
February 7, 2005

BEHZAD JAMES PEIKARI
PRIMARY EXAMINER